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(71) Applicant (for all designated States except US): SHOWA DENKO K.K. [JP/JP]; 13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SAIDA, Yoshihiro [JP/JP]; c/o Omachi Plant, Showa Denko K.K.,

6850, Oaza Omachi, Omachi-shi, Nagano 398-0002 (JP). **OHKUBO, Takashi** [JP/JP]; c/o Corporate R & D Center, Showa Denko K.K., 1-1, Ohnodai 1-chome, Midori-Ku, Chiba-shi, Chiba 267-0056 (JP).

(74) Agent: OHIE, Kunihisa; Ohie Patent Office, Selva-Ningyocho 6F, 14-6, Nihonbashi-Ningyocho 2-chome, Chuo-ku, Tokyo 103-0013 (JP).

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[Continued on next page]

(54) Title: CROSSLINKED SELF-DOPING TYPE ELECTRICALLY CONDUCTING POLYMER, PRODUCTION PROCESS THEREOF, PRODUCT COATED WITH THE POLYMER AND ELECTRONIC DEVICE

$$\begin{array}{c|c}
X \\
SO_3^-M^+ & B^1 \\
B^1 & SO_2
\end{array}$$

$$(5)$$

(57) **Abstract:** The invention relates to a self-doping type electrically conducting polymer comprising an isothianaphthene or thiophene skeleton where the polymer chains are crosslinked preferably through a sulfone bond, as represented by formula (2) or (5) below, which is imparted with water resistance and solvent resistance; a production process thereof; an electrically conducting composition film obtained by coating a composition containing the self-doping type electrically conducting polymer on a substrate and heating it; a product coated using the composition; and an electronic device containing the self-doping type electrically conducting polymer: (wherein the symbols are as described in the specification).

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FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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